



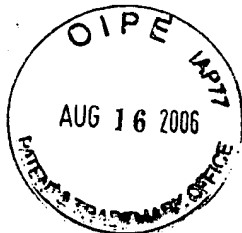
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,943	06/26/2003	Gersh Z. Taicher	EMS-03-01	4466

7590 08/09/2006

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Suite 223  
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EXAMINER

KISH, JAMES M

ART UNIT PAPER NUMBER

3737

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/606,943	<b>Applicant(s)</b> FAKE	
	<b>Examiner</b> James Kish	<b>Art Unit</b> 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br/>Paper No(s)/Mail Date <u>6/26/03</u>.</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)<br/>Paper No(s)/Mail Date. ____.</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</p> <p>6) <input type="checkbox"/> Other: ____.</p> |
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## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 6-9, 12, 17-20, 23, and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Van Yperen (US Patent No. 5,402,787). Van Yperen discloses a MRI method comprising multiple refocusing RF-pulses and receiving spin-echoes following an excitation RF-pulse (see Abstract). The method utilizes a Carr-Purcell-Meiboom-Gill sequence (CPMG-sequence) (column 1, lines 1-25). Also see column 2, line 58 through column 3, line 3. The CPMG-sequence provides information about the density of a certain type of nuclei and the substance in which they occur, thereby allowing an operator to determine the composition (column 4, lines 29-36). Figure 2 shows a known sequence of RF-pulses and gradients for obtaining the NMR-signals. A written description of Figure 2 can be found at column 4, lines 42-66.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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2. Claims 10-11, 21-22, 27-29, 37-39 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Yperen (US Patent No. 5,402,787) alone. Van Yperen discloses a MRI method comprising multiple refocusing RF-pulses and receiving spin-echoes following an excitation RF-pulse (see Abstract). It is obvious to one having ordinary skill in the art when using an MRI system that an operator can perform  $T_1$  and/or  $T_2$  based imaging, as well as provide gradient pulses with varying amplitudes to acquire slice selective images.

3. Claims 2 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Yperen in view of Tomlinson et al. (US Patent No. 4,034,191). Van Yperen discloses a MRI method comprising multiple refocusing RF-pulses and receiving spin-echoes following an excitation RF-pulse (see Abstract). However, Van Yperen does not discuss having RF magnetic fields with uniform spectral density. Tomlinson teaches an RF excitation of generally uniform spectral density over a relatively wide bandwidth as of 1000 Hz on one side of a carrier frequency, as of 60 to 100 MHz, except for a relatively narrow portion of the spectrum over which excitation of resonance is undesired (column 4, lines 13-18). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a uniform spectral density as taught by Tomlinson to keep the magnetic field homogenous throughout.

4. Claims 3-4, 15-16, 31-32 and 41-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Yperen in view of Bottomley (US Patent No. 4,585,993).

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Van Yperen discloses a MRI method comprising multiple refocusing RF-pulses and receiving spin-echoes following an excitation RF-pulse (see Abstract). However, Van Yperen does not discuss using either composite or spectrally shaped RF pulses. Bottomley teaches the use of spectrally shaped RF pulses in NMR to limit the frequency spectrum of the RF carrier pulse to a narrow band of frequencies about the NMR frequency of the nuclei to be saturated. Bottomley also teaches that composite pulses may be employed for simultaneously saturating, or inverting, all but the selected nuclei (column 3, lines 45-64). Therefore, it would be obvious to one having ordinary skill in the art at the time the invention was made to use either type of RF pulse in order to select a specific type of nuclei within the body.

5. Claims 5, 13, 24-26, 30, 34-36 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Yperen in view of Kimmlingen et al. (US Patent No. 6,717,409). Van Yperen discloses a MRI method comprising multiple refocusing RF-pulses and receiving spin-echoes following an excitation RF-pulse (see Abstract). However, Van Yperen does not discuss the use of booster coils. Kimmlingen teaches a MR tomography apparatus with at least one booster coil for creating the desired homogeneity within the imaging volume. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include booster coils within the system as taught by Kimmlingen in order to produce a desired homogeneity volume with enhanced performance characteristics (column 4, lines 46-51).

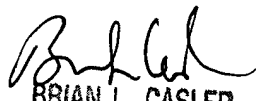
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Kish whose telephone number is 571-272-5554. The examiner can normally be reached on 8:30 - 5:00 ~ Mon. - Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMK

  
BRIAN L. CASLER  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3700

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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 2

**Complete if Known**

Application Number	N/A
Filing Date	06/26/2003
First Named Inventor	Taicher, Z.
Art Unit	N/A
Examiner Name	N/A
Attorney Docket Number	EMS-03-01

**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number Number-Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
OK	A1	US- 5,225,781 A	07-06-1993	Glover et al.	
	A2	US- 5,594,336 A	01-14-1997	Gullapalli et al.	
	A3	US- 6,147,492 A	11-14-2000	Zhang et al.	
	A4	US- 5,105,825 A	04-21-1992	Dempster	
	A5	US- 6,233,473 B1	05-15-2001	Shepherd et al.	
	A6	US- 4,144,763 A	03-20-1979	Vogelman	
	A7	US- 5,415,176 A	05-16-1995	Sato et al.	
	A8	US- 5,644,232 A	07-01-1997	Smith	
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**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>

Examiner Signature		Date Considered	8/2/06
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language translation is attached.

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)		<b>Complete if Known</b>	
		Application Number	N/A
		Filing Date	06-26-2003
		First Named Inventor	Taicher, Z.
		Art Unit	N/A
		Examiner Name	N/A
Sheet 2	of 2	Attorney Docket Number	EMS-03-01

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
JK	B1	ROSS ET AL., "Quantification of adipose tissue by MRI: relationship with anthropometric variables", <i>J. Appl. Physiol.</i> 72(2) : 787-795, 1992	
JK	B2	MYSTKOWSKI ET AL., "Validation of whole body magnetic resonance spectroscopy as a tool to assess <i>murine body composition</i> " <i>I.J. Obesity</i> 24 : 719-724 (2000)	
JK	B3	KAMMAN ET AL., "Multi-exponential relaxation analysis with MR imaging and NMR spectroscopy using fat - <i>water systems</i> " <i>Magnetic Resonance Imaging</i> : 5 PP 381-392, 1987	

Examiner Signature	<i>[Signature]</i>	Date Considered	8/2/06
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 1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.  
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<b>Notice of References Cited</b>	Application/Control No. 10/606,943	Applicant(s)/Patent Under Reexamination FAKE	
	Examiner James Kish	Art Unit 3737	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-4,034,191 A	07-1977	Tomlinson et al.	702/77
*	B	US-4,585,993 A	04-1986	Bottomley, Paul A.	324/309
*	C	US-5,402,787 A	04-1995	Van Yperen, Gerrit H.	600/410
*	D	US-6,717,409 B2	04-2004	Kimmlingen et al.	324/318
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	F	US-			
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	J	US-			
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	M	US-			

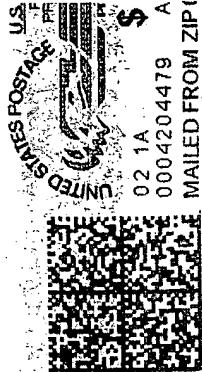
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**NON-PATENT DOCUMENTS**

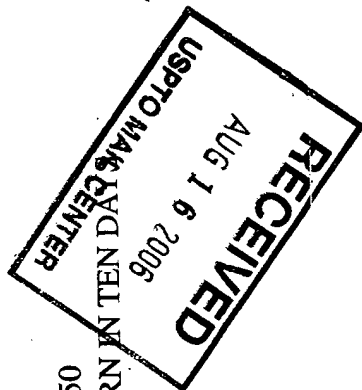
*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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